

October 7, 1999

Ms. Deborah L. Calderazzo  
Allegheny Ludlum Corporation  
100 River Road  
Brakenridge, IN 15014

Re: **065-11243**  
Minor Source Modification to:  
Part 70 permit No.: **T 065-7593-00014**

Dear Ms. Calderazzo:

Allegheny Ludlum Corporation was issued Part 70 operating permit T 065-7593-00014 on July 13, 1999 for a stationary metal heat treating and cold rolled steel sheet source. An application to modify the source was received on August 13, 1999.

On August 13, 1999, Allegheny Ludlum Corporation submitted an application to the OAM requesting to add low NOx burners with flue gas recirculation to the existing No. 12 A&P Line Annealing furnace to increase the capacity of the furnace from 40.0 million British thermal units per hour to 69.0 million British thermal units per hour. There is no increase in production or emissions from other operations as a result of this change. The only increase in emissions will be from combustion. Allegheny Ludlum Corporation also requests that liquid propane gas be removed from the description of all combustion sources in the permit, since liquid propane gas will not be used as a backup fuel at any combustion unit at this source. There is no change in the potential to emit as a result of removing liquid propane gas from the permit. The responsible official has been changed to Mr. David T. Moses. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

One (1) No. 12 A&P Line Annealing Furnace, identified as S002A, fired by natural gas and exhausting to fugitive emission point P005, maximum capacity: 27 tons of steel per hour, and increasing maximum heat input capacity from 40.0 million British thermal units per hour to 69.0 million British thermal units per hour by adding low NOx burners with flue gas recirculation.

This emission unit appears in Section A.2(b) of the permit as:

- (b) One (1) No. 12 A&P Annealing Furnace, identified as S002A, constructed in 1967, fired by natural gas and exhausting to fugitive emission point P005, using low NOx burners with flue gas recirculation with a heat input capacity of 29.0 million British thermal units per hour, maximum capacity: 27 tons of steel per hour, and total maximum heat input capacity: 69.0 million British thermal units per hour.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

Attachments  
CAO/MES

cc: File - Henry County  
U.S. EPA, Region V  
Air Compliance Section Inspector - Warren Greiling  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner

**PART 70 OPERATING PERMIT  
and ENHANCED NEW SOURCE REVIEW  
OFFICE OF AIR MANAGEMENT**

**Allegheny Ludlum Corporation  
State Route 38 West  
New Castle, Indiana 47362**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 065-7593-00014	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: July 13, 1999

First Minor Source Modification 065-11243-00014	Pages Affected: 6, 7, 38 and 39
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary metal heat treating and cold rolled steel sheet source.

Responsible Official: David T. Moses  
Source Address: State Route 38 West, New Castle, Indiana 47362  
Mailing Address: State Route 38 West, New Castle, Indiana 47362  
SIC Code: 3316 and 3398  
County Location: Henry  
County Status: Attainment for all criteria pollutants  
Source Status: Part 70 Permit Program  
Major, under PSD Rules;  
Major Source, Section 112 of the Clean Air Act

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) No. 11 A&P Annealing Furnace, identified as S001A, modified in 1998, fired by natural gas and exhausting to fugitive emission point P001, maximum capacity: 27 tons of steel per hour, and maximum heat input capacity: 60 million British thermal units per hour.
- (b) One (1) No. 12 A&P Annealing Furnace, identified as S002A, constructed in 1967, fired by natural gas and exhausting to fugitive emission point P005, using low NOx burners with flue gas recirculation with a heat input capacity of 29.0 million British thermal units per hour, maximum capacity: 27 tons of steel per hour, and total maximum heat input capacity: 69.0 million British thermal units per hour.
- (c) One (1) No. 11 A&P Line Jet Cool Unit, identified as S001B, constructed in 1981, using a baghouse identified as D001 as control, and exhausting to stack P002, maximum capacity: 27 tons of steel per hour.
- (d) One (1) No. 11 A&P Line Shot Blast Unit, identified as S001C, constructed in 1967 and replaced in 1995, using a baghouse identified as D002 as control, and exhausting to stack P003, maximum capacity: 27 tons of steel per hour.
- (e) One (1) No. 11 A&P Acid Pickling Facility, identified as S001D, constructed in 1967, using a chemical scrubber identified as D003 as control, and exhausting to stack P004, maximum capacity: 27 tons of steel per hour.

- (f) One (1) No. 12 A&P Kolene Rinse, identified as S002C, constructed in 1967 and replaced in 1996, using a chemical scrubber identified as D003 as control, and exhausting to stack P004, maximum capacity: 27 tons of steel per hour.
- (g) One (1) No. 12 A&P Line Acid Pickling Facility, identified as S002D, constructed in 1967, using a chemical scrubber identified as D003 as control, and exhausting to stack P004, maximum capacity: 27 tons of steel per hour.
- (h) One (1) North Boiler, identified as S006, installed in 1966, fired by natural gas and exhausting to stack P011, maximum heat input capacity: 20.92 million British thermal units per hour.
- (i) One (1) Middle Boiler, identified as S007, installed in 1966, fired by natural gas and exhausting to stack P012, maximum heat input capacity: 10.46 million British thermal units per hour.
- (j) One (1) South Boiler, identified as S008, installed in 1966, fired by natural gas and exhausting to stack P013, maximum heat input capacity: 10.46 million British thermal units per hour.
- (k) One (1) Strip Grinder, identified as S003A, composed of four (4) grinding heads and four (4) eliminators, constructed in 1967, using oil mist eliminators identified as D004, D005 and D006 as control, and exhausting to stack P007, maximum capacity: 25 tons of steel per hour.
- (l) One (1) Strip Polisher, identified as S003B, constructed in 1967, and exhausting to stack P008, maximum capacity: 25 tons of steel per hour.
- (m) One (1) Z-Mill, identified as S004, constructed in 1967, using an oil mist eliminator identified as D007 as control, and exhausting to stack P009, maximum capacity: 35 tons of steel per hour.
- (n) One (1) Temper Mill, identified as S005, constructed in 1967, and exhausting to fugitive emission point P010, maximum capacity: 50 tons of steel per hour.
- (o) Three (3) Parts Cleaners, identified as S009A, constructed between 1980 and 1988, using a sealed reservoir as control, and exhausting to fugitive emission point P014, maximum throughput: 0.5 gallons of mineral spirits per hour.
- (p) One (1) Parts Cleaner, identified as S009B, constructed between 1980 and 1988, using a sealed reservoir as control, and exhausting to fugitive emission point P015, maximum throughput: 0.5 gallons of kerosene per hour.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

### SECTION D.3

### FACILITY OPERATION CONDITIONS

#### Facility Description [326 IAC 2-7-5(15)]

- (h) One (1) North Boiler, identified as S006, installed in 1966, fired by natural gas and exhausting to stack P011, maximum heat input capacity: 20.92 million British thermal units per hour.
- (i) One (1) Middle Boiler, identified as S007, installed in 1966, fired by natural gas and exhausting to stack P012, maximum heat input capacity: 10.46 million British thermal units per hour.
- (j) One (1) South Boiler, identified as S008, installed in 1966, fired by natural gas and exhausting to stack P013, maximum heat input capacity: 10.46 million British thermal units per hour.

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

##### D.3.1 Particulate Matter (PM) [326 IAC 6-2-3]

The North Boiler, Middle Boiler, and South Boiler installed in 1966 shall be limited to PM emissions of 0.708 pound of PM per million British thermal units. This limit is based on the following equation:

$$Pt = (C \times a \times h) / (76.5 \times Q^{0.75} \times N^{0.25})$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input.

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain. This shall equal 50 micrograms per cubic feet per minute meter for a period not to exceed a sixty (60) minute time period.

N = Number of stacks in fuel burning operation.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 million British thermal units per hour heat input.

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height will be computed using a weighted average of stack heights.

$$Pt = (50 \mu\text{g}/\text{m}^3 \times 0.67 \times 35\text{ft}) / (76.5 \times 41.84^{0.75} \times 3^{0.25}) = 0.708 \text{ lbs PM} / \text{MMBtu}$$

#### Compliance Determination Requirements

##### D.3.2 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

**D.3.3 Reporting Requirements**

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The Permittee shall certify within thirty (30) days after the end of the quarter being reported, using the reporting form located at the end of this permit, or its equivalent, which fuels were fired in the boilers during the report period and the dates of use.

**Indiana Department of Environmental Management  
Office of Air Management**

**Technical Support Document (TSD) for a Part 70  
Minor Source Modification**

**Source Background and Description**

<b>Source Name:</b>	<b>Allegheny Ludlum Corporation</b>
<b>Source Location:</b>	<b>State Route 38 West, New Castle, Indiana 47362</b>
<b>County:</b>	<b>Henry</b>
<b>SIC Code:</b>	<b>3316 and 3398</b>
<b>Operation Permit No.:</b>	<b>T 065-7593-00014</b>
<b>Operation Permit Issuance Date:</b>	<b>July 13, 1999</b>
<b>Minor Source Modification No.:</b>	<b>065-11243-00014</b>
<b>Permit Reviewer:</b>	<b>CarrieAnn Ortolani</b>

The Office of Air Management (OAM) has reviewed a modification application from Allegheny Ludlum Corporation relating to the construction of the following emission units and pollution control devices:

One (1) No. 12 A&P Line Annealing Furnace, identified as S002A, fired by natural gas and exhausting to fugitive emission point P005, maximum capacity: 27 tons of steel per hour, and increasing maximum heat input capacity from 40.0 million British thermal units per hour to 69.0 million British thermal units per hour by adding low NO<sub>x</sub> burners with flue gas recirculation.

**History**

On August 13, 1999, Allegheny Ludlum Corporation submitted an application to the OAM requesting to add low NO<sub>x</sub> burners with flue gas recirculation to the existing No. 12 A&P Line Annealing furnace to increase the capacity of the furnace from 40.0 million British thermal units per hour to 69.0 million British thermal units per hour. There is no increase in production or emissions from other operations as a result of this change. The only increase in emissions will be from combustion. Allegheny Ludlum Corporation was issued a Part 70 permit on July 13, 1999. Allegheny Ludlum Corporation also requests that liquid propane gas be removed from the description of all combustion sources in the permit, since liquid propane gas will not be used as a backup fuel at any combustion unit at this source. There is no change in the potential to emit as a result of removing liquid propane gas from the permit. The responsible official has been changed to Mr. David T. Moses.

**Enforcement Issue**

There are no enforcement actions pending.

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.



An application for the purposes of this review was received on August 13, 1999. Additional information was received on September 27, 1999.

### Emission Calculations

See pages 1 and 2 of 2 of Appendix A of this document for detailed emissions calculations.

### Potential To Emit of Modification (Operating at 69 .0 million British thermal units per hour)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.574
PM <sub>10</sub>	2.30
SO <sub>2</sub>	0.181
VOC	13.5
CO	0.00
NO <sub>x</sub>	21.6

HAP's	Potential To Emit (tons/year)
Benzene	0.001
Dichlorobenzene	0.0004
Formaldehyde	0.023
Hexane	0.544
Toluene	0.001
Lead	0.0002
Cadmium	0.0003
Chromium	0.0004
Manganese	0.0001
Nickel	0.001
TOTAL	0.570

### Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4), modifications that have a potential to emit less than 25 tons per year and greater than 10 tons per year of NO<sub>x</sub> and VOC. This Minor Source Modification gives the source approval to construct the modification. Administrative Amendment 065-11398-00014 will incorporate this modification into the previously issued Part 70 Operating permit and give the source approval to operate the modification.

### County Attainment Status

The source is located in Henry County.

Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Henry County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Henry County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is one of the 28 listed source categories under 326 IAC 2-2, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD applicability.

### Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	113
PM <sub>10</sub>	104
SO <sub>2</sub>	1.41
VOC	244
CO	29.2
NO <sub>x</sub>	73.2

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.
- (b) These emissions are based upon the sum of the Limited Potential to Emit from the TSD to T 065-7593-00014 and the potential to emit from the modification addressed in CP 065-9719-00014. Although the modification in CP 065-9719-00014 was incorporated into the Title V Operating Permit after public notice, the TSD to the Title V Operating Permit was not revised to account for the modification.

#### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Future Potential (69.0 million British thermal units per hour)	0.574	2.30	0.181	13.5	0.00	21.6
Present Actual (40 million British thermal units per hour)	0.218	0.218	0.069	0.925	0.00	11.4
Proposed Modification (Net Increase)	0.357	2.08	0.113	12.6	0.00	10.2
PSD or Offset Significant Level	25	15	40	40	100	40

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

#### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

### **State Rule Applicability - Individual Facilities**

#### **326 IAC 2-6 (Emission Reporting)**

This facility alone is not subject to 326 IAC 2-6 (Emission Reporting), because the facility emits less than 100 tons per year of each criteria pollutant. However, the source emits more than 100 tons per year of VOC, NO<sub>x</sub>, and PM<sub>10</sub>. Therefore, the entire source is subject to the requirements of 326 IAC 2-6 (Emission Reporting). Pursuant to this rule, the owner/ operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

#### **326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)**

Since this annealing furnace is not a boiler, the requirements of 326 IAC 6-2 do not apply.

#### **326 IAC 6-3-2 (Particulate Emission Limitations)**

Since the particulate matter (PM) emissions are from combustion and not from the annealing process, the requirements of 326 IAC 6-3-2, Process operations: particulate emission limitations, do not apply to this modification.

#### **326 IAC 8-1-6 (Best Available Control Technology)**

Since this furnace does not have the potential to emit more than 25 tons per year of VOC, the requirements of 326 IAC 8-1-6 are not applicable.

#### **326 IAC 9-1 (Carbon Monoxide Emission Limitations)**

Since this facility is not a petroleum refinery, ferrous metal smelter, or refuse incineration and burning facility, the requirements of 326 IAC 9-1-2 do not apply. Also, in previous testing of a similar facility the CO emissions were determined to be zero (0).

#### **326 IAC 10-1 (Nitrogen Oxide Limitations in Clark and Floyd Counties)**

Since this source is not located in Clark or Floyd County, the requirements of 326 IAC 10-1 do not apply.

### **Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

There are no Compliance Monitoring requirements applicable to this modification.

### Proposed Changes

There are no rules applicable to the one (1) No. 12 A&P Line Annealing Furnace. Therefore, the only change made to the permit as a result of the source modification is in Section A.2(b). Removal of liquid propane gas as a backup fuel resulted in changes to Section A.2 (a), (b), (h), (i), and (j) and the facility descriptions in Section D.3. The Responsible Official is revised in Section A.1.

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in bold):

#### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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The Permittee owns and operates a stationary metal heat treating and cold rolled steel sheet source.

Responsible Official:	<del>Paul M. Ferrara</del> <b>David T. Moses</b>
Source Address:	State Route 38 West, New Castle, Indiana 47362
Mailing Address:	State Route 38 West, New Castle, Indiana 47362
SIC Code:	3316 and 3398
County Location:	Henry
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major, under PSD Rules; Major Source, Section 112 of the Clean Air Act

#### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

---

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) No. 11 A&P Annealing Furnace, identified as S001A, modified in 1998, fired by natural gas ~~and using liquid propane gas as a backup fuel~~ and exhausting to fugitive emission point P001, maximum capacity: 27 tons of steel per hour, and maximum heat input capacity: 60 million British thermal units per hour.
- (b) One (1) No. 12 A&P Annealing Furnace, identified as S002A, constructed in 1967, fired by natural gas ~~and using liquid propane gas as a backup fuel~~ and exhausting to fugitive emission point P005, **using low NOx burners with flue gas recirculation with a heat input capacity of 29.0 million British thermal units per hour**, maximum capacity: 27 tons of steel per hour, and **total** maximum heat input capacity: ~~40-69.0~~ million British thermal units per hour.

- (c) One (1) No. 11 A&P Line Jet Cool Unit, identified as S001B, constructed in 1981, using a baghouse identified as D001 as control, and exhausting to stack P002, maximum capacity: 27 tons of steel per hour.
- (d) One (1) No. 11 A&P Line Shot Blast Unit, identified as S001C, constructed in 1967 and replaced in 1995, using a baghouse identified as D002 as control, and exhausting to stack P003, maximum capacity: 27 tons of steel per hour.
- (e) One (1) No. 11 A&P Acid Pickling Facility, identified as S001D, constructed in 1967, using a chemical scrubber identified as D003 as control, and exhausting to stack P004, maximum capacity: 27 tons of steel per hour.
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- (g) One (1) No. 12 A&P Line Acid Pickling Facility, identified as S002D, constructed in 1967, using a chemical scrubber identified as D003 as control, and exhausting to stack P004, maximum capacity: 27 tons of steel per hour.
- (h) One (1) North Boiler, identified as S006, installed in 1966, fired by natural gas, ~~using liquid propane gas as a backup fuel~~ and exhausting to stack P011, maximum heat input capacity: 20.92 million British thermal units per hour.
- (i) One (1) Middle Boiler, identified as S007, installed in 1966, fired by natural gas, ~~using liquid propane gas as a backup fuel~~ and exhausting to stack P012, maximum heat input capacity: 10.46 million British thermal units per hour.
- (j) One (1) South Boiler, identified as S008, installed in 1966, fired by natural gas, ~~using liquid propane gas as a backup fuel~~ and exhausting to stack P013, maximum heat input capacity: 10.46 million British thermal units per hour.
- (k) One (1) Strip Grinder, identified as S003A, composed of four (4) grinding heads and four (4) eliminators, constructed in 1967, using oil mist eliminators identified as D004, D005 and D006 as control, and exhausting to stack P007, maximum capacity: 25 tons of steel per hour.
- (l) One (1) Strip Polisher, identified as S003B, constructed in 1967, and exhausting to stack P008, maximum capacity: 25 tons of steel per hour.
- (m) One (1) Z-Mill, identified as S004, constructed in 1967, using an oil mist eliminator identified as D007 as control, and exhausting to stack P009, maximum capacity: 35 tons of steel per hour.
- (n) One (1) Temper Mill, identified as S005, constructed in 1967, and exhausting to fugitive emission point P010, maximum capacity: 50 tons of steel per hour.
- (o) Three (3) Parts Cleaners, identified as S009A, constructed between 1980 and 1988, using a sealed reservoir as control, and exhausting to fugitive emission point P014, maximum throughput: 0.5 gallons of mineral spirits per hour.

- (p) One (1) Parts Cleaner, identified as S009B, constructed between 1980 and 1988, using a sealed reservoir as control, and exhausting to fugitive emission point P015, maximum throughput: 0.5 gallons of kerosene per hour.

### SECTION D.3

### FACILITY OPERATION CONDITIONS

#### Facility Description [326 IAC 2-7-5(15)]

- (h) One (1) North Boiler, identified as S006, installed in 1966, fired by natural gas, ~~using liquid propane gas as a backup fuel~~ and exhausting to stack P011, maximum heat input capacity: 20.92 million British thermal units per hour.
- (i) One (1) Middle Boiler, identified as S007, installed in 1966, fired by natural gas ~~using liquid propane gas as a backup fuel~~ and exhausting to stack P012, maximum heat input capacity: 10.46 million British thermal units per hour.
- (j) One (1) South Boiler, identified as S008, installed in 1966, fired by natural gas ~~using liquid propane gas as a backup fuel~~ and exhausting to stack P013, maximum heat input capacity: 10.46 million British thermal units per hour.

### Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 065-11243-00014.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**

Page 1 of 2 TSD App A

**Company Name:** Allegheny Ludlum Corporation  
**Address City IN Zip:** State Route 38 West, New Castle, IN 47362  
**Minor Source Modification:** 065-11243  
**Plt ID:** 065-00014  
**Part 70:** 065-7593-00014  
**Reviewer:** Carrie Ann Ortolani  
**Date:** August 18, 1999

**Before Modification**

**S002A Annealing furnace**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Throughput tons/yr
40.0	350.4	236520

1997 Actual Emissions in tons/yr	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	0.209	0.209	0.066	11.0	0.890	0.00
1998 Actual Emissions in tons/yr	0.226	0.226	0.071	11.9	0.960	0.00
Average Actual Emissions in tons/yr	0.218	0.218	0.069	11.4	0.925	0.00

**After Modification**

**S002A Annealing furnace**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Throughput tons/yr
40.0 existing	350.4	236520
29.0 new	254.0	
69.0 total	604.4	

**Emissions for the existing 40 MMBtu/hr burners**

Combustion Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	0.0
Process Emission Factor in lb/ton	0.0	0.0	0.0	0.0	0.1	0.0
Potential Emission in tons/yr	0.33	1.33	0.105	17.5	12.8	0.00

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Emissions for the new 29 MMBtu/hr low NOx burners with flue gas recirculation**

Combustion Emission Factor in lb/MMCF	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	1.9	7.6	0.6	32.0	5.5	0.0
Process Emission Factor in lb/ton	0.0	0.0	0.0	0.0	0.1	0.0
Potential Emission in tons/yr	0.24	0.97	0.08	4.06	0.699	0.00

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Total Emissions After Modification (tons/yr):**

PM	PM10	SO2	NOx	VOC	CO
0.574	2.30	0.181	21.6	13.5	0.00

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Initial Actual Emission in tons/yr	0.218	0.218	0.069	11.4	0.925	0.00
Emission Increase in tons/yr	0.357	2.08	0.113	10.2	12.6	0.00
New Potential Emission in tons/yr	0.574	2.30	0.181	21.6	13.5	0.00

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton



**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**HAPs Emissions**

Page 2 of 2 TSD App A

**Company Name:** Allegheny Ludlum Corporation  
**Address City IN Zip:** State Route 38 West, New Castle, IN 47362  
**Minor Source Modification:** 065-11243  
**PIt ID:** 065-00014  
**Part 70:** 065-7593-00014  
**Reviewer:** Carrie Ann Ortolani  
**Date:** August 18, 1999

**After Modification**

**S002A Annealing furnace**

Heat Input Capacity  
MMBtu/hr

40.0	existing
29.0	new
69.0	total

Potential Throughput  
MMCF/yr

350.4
254.0
604.4

Potential Throughput  
tons/yr

236520
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**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	6.347E-04	3.627E-04	2.267E-02	5.440E-01	1.028E-03

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.511E-04	3.324E-04	4.231E-04	1.148E-04	6.347E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.